

Abstract

An apparatus for producing hydrogen, which comprises:

- 5 a. a heated steam reforming stage (1) with a reforming catalyst to convert gaseous or vaporizable hydrocarbons and water into hydrogen, carbon monoxide and further reformer products;
- 10 b. at least one stage downstream of the steam reforming stage for the catalytic conversion of the mixture of hydrogen, carbon monoxide and excess steam leaving the steam reforming stage (shift stage) (2); and
- 15 c. a fine purification stage (3) downstream of the shift stage(s) for the catalytic lowering of the residual carbon monoxide content of the conversion products by selective methanization,

is described.

In the apparatus, the shift stage (2) and the fine purification stage (3) are configured as a unitary hollow body
20 (exothermic catalyst stage).